

**Before the**  
**FEDERAL COMMUNICATIONS COMMISSION**  
**Washington, DC. 20554**

**In the Matter of**

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	)	
<b>Amendment of Part 2</b>	)	<b>ET Docket No. 00-258</b>
<b>of the</b>	)	
<b>Commission's Rules</b>	)	
<b>to Allocate Spectrum</b>	)	
<b>Below 3 GHz for Mobile and</b>	)	
<b>Fixed Services to Support the</b>	)	
<b>Introduction of New Advanced</b>	)	
<b>Wireless Services, including</b>	)	
<b>Third Generation Wireless</b>	)	
<b>Systems</b>	)	
	)	
<b>Amendment of Section 2.106 of</b>	)	<b>ET Docket No. 95-18</b>
<b>the Commissions Rules to</b>	)	
<b>Allocate Spectrum at 2 GHz for</b>	)	
<b>Use by the Mobile-Satellite</b>	)	
<b>Service</b>	)	
	)	
<b>The Establishment of Policies</b>	)	<b>IB Docket No. 99-81</b>
<b>and Service Rules for the</b>	)	
<b>Mobile-Satellite Service in the</b>	)	
<b>2 GHz Band</b>	)	

**To: The Commission**

**COMMENTS of Nickolaus E. Leggett**  
**N3NL Amateur Radio Operator**

The following are comments from Nickolaus E. Leggett, an amateur radio operator, inventor, patent holder, and a certified electronics technician.

These comments are directed at the proposed reallocation of frequencies in the 2390 – 2400 MHz band to support the introduction of advanced wireless systems, including third-generation (3G) mobile systems.

Sharing of this band between consumer advanced wireless systems and amateur radio operation is a poor idea. The close proximity of the amateur radio operators and the consumers using the advanced wireless systems would lead to numerous instances of fundamental frequency overload type of interference. In this type of interference, the amateur signal transmitted on its authorized frequency band is strong enough to be received by the consumer's advanced wireless device. The Commission's own booklet on interference describes this fundamental overload interference as follows:

“Telephones, stereos, computers, electronic organs and home intercom systems can receive interference from nearby radio transmitters. When this happens, the device improperly functions as a radio receiver. Proper shielding or filtering [of the consumer device] can eliminate such interference.”

This type of interference is difficult to solve because it is caused by engineering design problems in the consumer device itself. If both the consumer devices and the amateur radio stations are assigned frequencies in the same radio band (2390 –2400 MHz), this fundamental overload problem is especially difficult to solve for engineering reasons.

In addition, the consumer often becomes quite emotional when he or she receives this type of interference. This emotional atmosphere inhibits problem solving. Usually, in such a situation the amateur radio operator will simply cease operating in the frequency band in order to restore neighborhood peace. As a result of this, the “shared” allocation becomes unavailable to the amateur radio operator, even though his station was being operated in full compliance with the FCC rules.

This sharing is also undesirable from the standpoint of the advanced wireless system user and vendor. Sharing with amateur radio will lead to additional interference incidents that are undesirable for the user and for the organization that is trying to sell these new services. There is also the potential for interference between the advanced wireless system products and the Part 15 devices that already use frequencies in or near this frequency range. For example, Radio Shack has started marketing 2.4 GHz cordless telephone systems for residential use. It is likely that the proposed advanced wireless products and these cordless telephones would interfere with each other creating numerous unhappy customers of electronic devices.

These problems could be avoided by allocating just amateur radio and Part 15 devices to this frequency band. This would be a continuation of the status quo for this frequency band.

If the Commission decides that further sharing is needed in this frequency band, the amateur radio operators can share it with Federal Government users. This sharing approach has the advantage that the government users are not located in residential areas and hence the fundamental frequency overload type of interference will not occur. In addition, the government users tend to be more knowledgeable about interference than consumers are. This enhances the ability to solve any interference problems that may come up. In such a sharing approach, blocks of frequencies can be assigned to amateur radio and separate blocks of frequencies can be assigned to Federal Government operations. This sharing would be most successful if the same type of Federal operations shared the band as those that had successfully shared it in the past.

Respectfully submitted,

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